Impressive transportation movement generated by grains in Argentina

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In this note we estimate the transport of agro-grains in the year 2017. We have not counted shipments abroad of biodiesel. We have grouped the bulk port terminals of our country in 6 port nodes: Gran Rosario, Bahía Blanca, Quequén, Zárate, Ramallo and Villa Constitución/San Nicolás. We ask ourselves questions. And here we expose their answers.

Question 1: How much merchandise of national and foreign origin entered each port node by truck, rail and barge?

According to our estimates, the 6 Argentine port nodes would have reached nearly 90 million tons (Mt) of grains, meals and oils last year, using various modes of transport: truck, railroad wagons and barges (the latter by the Paraná River). We could say that these 90 million are equivalent to adding the loads transported by trucks, railroad wagons and barges.

We have not counted in this figure of 90 million, the tons carried by vessels that go from the Gran Rosario, Zárate and Ramallo when they are directed to complete cargo to the Buenos Aires maritime ports of Bahía Blanca or Quequén. Remember that there are Panamax vessels that load between 46,000 and 49,000 tons in the Gran Rosario and then go to complete cargo to Bahia Blanca or Quequén, loading another 15,000 or more additional tons. This cargo has not been computed in our estimates.

In general, in Argentina the transfer to the ports of flour/pellets and oils is done -almost exclusive- by rail, except in the case of merchandise from Bolivia and Paraguay, which arrives at the Gran Rosario in barge trains through the Parana River. There is no transfer of this type of merchandise by truck.

To the Gran Rosario would have arrived with a barge, truck or rail about 71 Mt of grains, flours and oils in 2017. This represents 79% of the total cargo that arrived at all the Argentine bulk ports (Table No. 1). Bahia Blanca would have reached about 9.1 million tons last year, of which approximately 6.3 million would have entered by truck and 2.8 million by rail.

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Table N° 1: Estimated entry of trucks, railway wagons, barges and ships to the Argentine port nodes in 2017.

Port Nodes	Unity of Measure	Gran Rosario	Bahía Blanca	Quequén	Zarate	Ramallo	V.Const., S.Nicolas, Diamante	Argentine Total
Total merchandise that entered by truck, rail and barge	Tons	71.053.132	9.166.908	6.024.240	2.404.834	935.653	456.293	90.041.060
Merchandise of national origin in terminals by rail	Tons	8.659.031	2.784.494	0	0	0	0	11.443.525
Grains, oils and by-products in barge (by Paraná River)	Tons	6.494.668	0	0	0	0	0	6.494.668
Grains of Argentine origin by truck	Tons	55.899.433	6.382.414	6.024.240	2.404.834	935.653	456.293	72.102.867
Number of trucks that entered each Node (estimated)	Vehicles (estimated capacity 28 tn).	1.996.408	227.943	215.151	85.887	33.416	16.296	2.575.102
Number of railroad wagons that entered each Node (estimated)	Wagons (estimated capacity 47 tn).	184.235	59.245	0	0	0	0	243.479
Number of barges that arrived at the ports and factories of the Gran Rosario (estimated)	Barges (estimated capacity 1,500 tn).	4.330	0	0	0	0	0	4.330
Vessels that entered to load grains, oils and by-products	Overseas vessels	2.352	366	241	78	30	15	3.081

Source: Rosario Board of Trade based on MINAGRI, CNRT, Consorcio Gestión Puerto Bahía Blanca y Puerto Quequén y FEPSA S.A.

In the case of Necochea, it would have received close to 6 million tons per truck. We are always talking about grains, flours and oils. According to information from the Management Consortium, there would be no merchandise entering the port by rail.

On the other hand, the merchandise that would have arrived by truck to the port node of Zárate (Cofco and "Terminal Las Palmas") in 2017 would be 2.4 million tons. To the port node of Ramallo (Bunge) would have arrived near 940,000 tons. Finally, the access of grains to the port node of Villa Constitución/San Nicolas would have been about 450 thousand tons.

Question 2: How much merchandise of national origin would have arrived by rail to the Argentine bulk port nodes?

According to the information of the National Commission of Transport Regulation (CNRT) the railway movement of grains, flours and oils in Argentina in the year 2017 would have been of 11.4 million tons. We have estimated that about 2.7 million tons would have reached Bahía Blanca through various operations of "Ferroexpreso Pampeano" and "Ferrosur Roca". We estimate that to the Gran Rosario could have entered about 8.6 million tons by rail.

As a result, about 76% of Argentine railroad cargoes of grains, flours and oils could have reached the Gran Rosario last year. The remaining 24% would have accessed the terminals located in Bahía Blanca.

No movements of railway loads would have been registered in the nodes of Quequén, Zárate and Villa Constitución/San Nicolás.

Question No. 3: How much merchandise would have arrived by barge by the Paraná River to the Gran Rosario Ports in 2017?

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According to information from the Ministry of Agribusiness and own estimates, last year about 6.4 million tons would have reached the ports of the Gran Rosario in barges along the Paraná River from Paraguay and Bolivia. This figure is composed of:

a) Grains of Argentine origin that went down through the Paraná: 293,499 tn

b) Bolivian and Paraguayan grains: 2,088,970 tn.

c) Flour / pellets from Bolivia and Paraguay: 1,688,865 tn.

d) Vegetable oils from Bolivia and Paraguay: 793,852 tn.

d) Temporary imports of grain from Paraguay: 1,629,482 tons.

Question No. 4: How much merchandise of national origin would have arrived by truck to the Argentine port nodes in 2017? How much arrived to each port node?

According to our estimations, last year about 72 Mt of grains would have entered by truck to the six bulk port nodes in Argentina. The most important node is logically the Gran Rosario. In 2017, it would have received about 56 Mt of grain per truck. This represents 77.5% of the total bulk cargoes that arrived in heavy automotive vehicles to all Argentine ports last year.

The second place is held by the Bahía Blanca port node with almost 6.4 million tons. Very close to this position appears Quequén with 6 million tons.

That is to say that, in terms of tons of grain loads that entered through the road in Argentina, 77.5% would have been captured by the Gran Rosario, Bahía Blanca received 8.9% of the total, Quequén 8.4 %, Zarate 3.3%, Ramallo 1.3% and Villa Constitución/San Nicolás 0.6% of the national total.

Question No. 5: How many trucks arrived in 2017 to all the Argentine bulk port nodes? How much arrived to each port node?

According to our estimates, last year, there were about 2,575,000 trucks entering the six Argentine bulk port nodes. A figure that has not undergone great variations in recent years. Let's think that we are talking about 5,150,000 journeys - back and forth - in the country. Only with grains in a truck. We are not considering other truck movements such as those that transport biodiesel to oil refineries or those that carry vegetable oils to biodiesel plants.

Of those almost 2.6 million trucks, close to 2 million would have entered the Gran Rosario: 76.4% of the national total. Approximately 228,000 trucks could have entered Bahía Blanca and 215,000 in Quequén. As interesting data emerges the following: only 22% of the trucks that entered the Gran Rosario would have arrived both in Bahía Blanca and in Quequén. Almost 443,000 trucks compared to 2,000,000 in the Gran Rosario.

Question No. 6: How many rail wagons would have arrived in 2017 to all the Argentine bulk port nodes? How many arrived to each port node?

According to our estimates, last year, there were about 243,000 railroad wagons loaded with grains, flours and oils into the six Argentine bulk port nodes. Of those 243,000 wagons about 184,000 would have entered the Gran Rosario (75.7% of the total). To Bahia Blanca would have entered about 59,000 wagons. It is important to note that we have taken an average load per wagon of 47 tons for this estimate. The wagons of the "Belgrano Cargas" have a smaller capacity tan

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the rest. Nevertheless, we believe that these estimated figures allow an adequate diagnosis of the rail movement of agro-grains in Argentina.

Question N ° 7: How many barges arrived in 2017 to the Gran Rosario?

Approximately 4,300 barges would have accessed the port terminals of the Gran Rosario, transporting about 6.4 million tons of grains, flours and oils as we saw in one of the previous questions.

Question No. 8: How many ships would have entered the six Argentine port nodes in 2017 to look for agro-bulks to ship them abroad? How many ships entered each port node?

According to our estimates, about 6,000 vessels had gone to the six Argentine port nodes last year to look for grains, flours/pellets and oils. The entry of ships to the port terminals in the southern area of Gran Rosario (Rosario to Arroyo Seco) and north (San Lorenzo to Timbúes) during the year 2017 would have amounted to 2,352 (76% of the national total).

About 366 ships would have entered to Bahia Blanca, while about 241 would have accessed to Quequén. Zarate could have received about 80 ships, Ramallo around 30 and Villa Constitución/San Nicolás node about 15 ships. It is worth noting that in the case of Villa Constitución/San Nicolás, the entry of ships is much higher (in the year 2017 there would have been about 279 ships), but in our estimate of Table No. 1 only those who arrived to load agro-bulks are included.

The Gran Rosario includes the overseas vessels that enter these ports but exclude the naval artifacts that carry out cabotage trips and the barges themselves. Also, in that total, the ship's entry to each terminal is computed, therefore it is counted by two when the same ship (during the same trip) loads in two terminals of the Up River Paraná. It should also be noted that the total number of ships entered includes those that come to load or unload other types of cargo that are not grains, by-products and oils, such as minerals, general cargo, containers, etc.

The estimated figures do nothing other than reaffirm the importance of the Argentine countryside and agribusiness as the great factory to generate foreign currency and expand the level of economic activity in our country. A business that generates more than 20 billion dollars of exports a year and that motorizes -day after day- the daily activity of transport in our country.

Question No. 9: What is the participation of each mode in the transport of agro-grains to port in Argentina?

As we saw and based on our estimates, in 2017 the loads that arrived in the Argentine bulk ports would have been 90 million tons for their later dispatch abroad. 80% arrived by truck (72 million tons of grain), 13% by rail (11.4 million tons) and 7% by barge (6.5 million tons). It is important to note that in barge loads we are computing the increase that was registered in the merchandise of external origin (Bolivia and Paraguay).

Explanatory notes to understand the report:

Gran Rosario : When we refer to the port node of the Gran Rosario we are adding the dispatches of the terminals classified in the category "South Zone of the Gran Rosario" plus those of the "North Zone of the Gran Rosario". The first category includes the ports located on the Paraná River to the south from Rosario to Arroyo Seco. Such is the case of Servicios Portuarios S.A. which operates Unit VI and VII, Cargill in Villa Gobernador Gálvez and Punta Alvear, Dreyfus in General Lagos and ADM Agro in Arroyo Seco. Those of the "North Zone of the Gran Rosario" are all located towards the north of the city of Rosario and include those located in the urban areas of San Lorenzo, Puerto General San Martín and Timbúes. They are Molinos (San Benito), Vicentín and ACA in the city of San Lorenzo; Bunge (Pampa and Dempa docks), ADM Agro (Transit), Cofco (former Nidera), Cargill, and Terminal 6 S.A. in Puerto General San Martín; Dreyfus, Cofco and Renova S.A., in Timbúes.

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Bahía Blanca : In the case of the Port of Bahía Blanca, it includes the following port sub-nodes: Puerto Rosales, Puerto Belgrano Naval Base, Ing. White Port and Puerto Galván. The firms ADM Agro (Luis Piedrabuena and ADM docks), Bahía Blanca Terminal (sites 5-6, 7-8 and 9) and Cargill (with their own terminals) operate in Puerto Ing. White. In Puerto Galván they operate with agro-grains: Dreyfus and Oleaginosa Moreno OMHSA.

Quequén : In relation to Quequén, most of the best-known Argentine exporters operate there: Dreyfus, ACA, Cofco, CHS, Oleaginosa Moreno, Cargill, Bunge, ADM Agro, Amaggi, Noble, AFA, among others. Usually in the Port of Quequén there is a strong operative of the Cargill and Oleaginosa Moreno companies in relation to the remission of flours/pellets and oils to the terminals of the node. Cargill has an oilseed crushing plant in Quequén with a theoretical milling capacity of 2000 tn / day, as well as Oleaginosa Moreno, whose grinding capacity in Quequén is 1,350 tn / day. This last plant usually grinds sunflower.

Zárate : In the case of Zárate, the Lima terminal of Cofco plus Las Palmas and Guazú terminals is computed. In the case of Diamante, Entre Ríos, in 2017 it is observed in official records about 90 thousand tons of soybeans and wheat loaded by Cargill.

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